

## BIOGRAPHICAL SKETCH

**NAME: Marsha D. W. Ward**

**POSITION TITLE: Research Biologist**

### EDUCATION/TRAINING

Institution	Degree	Year	Field of Study
- County College of Morris, Randolph Township, NJ	AAS	1973	Biology/Medical Laboratory Technology
- North Carolina State University, School of Agriculture and Life Science, Raleigh, NC	BS	1981	Zoology
- North Carolina State University, Raleigh, NC	Certificate	1985	Computer Programming
- North Carolina State University, College of Veterinary Medicine, Raleigh, NC	MS	1988	Veterinary Medical Sciences
- North Carolina State University, College of Veterinary Medicine, Raleigh, NC	PhD	1994	Immunology; minor: Biotechnology

### PROFESSIONAL EXPERIENCE:

- US Environmental Protection Agency, Research Triangle Park, North Carolina  
Research Biologist Immunotoxicology 2001- present
- US Environmental Protection Agency, Research Triangle Park, North Carolina  
Postdoctoral Fellow Immunotoxicology 1998-2001
- University of North Carolina, Curriculum in Toxicology, Chapel Hill, North Carolina  
Postdoctoral Trainee Immunotoxicology 1995-1998
- North Carolina State University, College of Veterinary Medicine, Raleigh, North Carolina  
Visiting Scientist Avian Immunology 1994-1995

### PROFESSIONAL SOCIETIES:

- Society of Toxicology (National Organization), 1997 – present
- North Carolina Chapter of the Society of Toxicology, 1995 - present

### SELECTED AWARDS AND HONORS:

- Recipient EPA Bronze Medal for work on toxic mold research team, 2003
- Recipient NHEERL Goal 1 Award: Support the Agency's Mission, Asthma Research Team, 2005

### INVITED LECTURES/SYMPOSIA:

- Indoor Molds - More Than Just a Musty Smell. Research Triangle Chapter of the Society for Risk Analysis. Mini-symposium. Research Triangle Park, North Carolina, October 14, 2004.
- Animal Models of Mold Allergy. Mold-Related Health Effects: Clinical, Remediation Worker Protection, and Biomedical Research Issues. Washington, DC, June 28-29, 2004.
- Assessing the Allergic Potential of Indoor Air Fungal Contaminants. The 5th International Conference on Bioaerosols, Fungi, Bacteria, Mycotoxins and Human Health. Saratoga Springs, New York,

September, 2003.

- The Allergenic Potential of Indoor Air Fungal Contaminants. Indoor Air Quality Symposium, Research Triangle Park, NC, July 2003.
- Respiratory Responses to the Biopesticide, *Metarhizium anisopliae*: Allergenic Assessment Of Proteinaceous Environmental Contaminants. Immunology Seminar Series, North Carolina State University, Raleigh, North Carolina, September 2000.
- Respiratory Responses to the Biopesticide, *Metarhizium anisopliae*: An Approach to Assessing the Potential Allergenicity of proteinaceous Environmental Contaminants. Visiting Pulmonary Scholars Program at Duke University, November 1999.
- Immune Responses of the Biopesticide *Metarhizium anisopliae*. "Mechanisms in Hapten and Protein-Mediated Hypersensitivity", Mechanisms of Immunotoxicology 13<sup>th</sup> Annual Conference, Morgantown, West Virginia, September 1998.

#### **ASSISTANCE/LEADERSHIP PROVIDED TO THE SCIENTIFIC COMMUNITY:**

- North Carolina State University, College of Veterinary Medicine, Raleigh, North Carolina  
Adjunct Assistant Professor

#### **ASSISTANCE/LEADERSHIP PROVIDED TO THE AGENCY:**

- Divisional Representative to EPA NHEERL IACUC, 2003-present

#### **PUBLICATIONS:**

- Ward, M.D.W., Sailstad, D.M., and Selgrade, MJ.K. Allergic Responses to the Bio-pesticide, *Metarhizium anisopliae*, in BALB/C mice. *Toxicol. Sci.* 45: 195-203. 1998.
- Ward, M.D.W., Madison, S.L., Sailstad, D.M., Gavett, S.H., and Selgrade, MJ.K. Allergen-triggered Airway Hyperresponsiveness and Lung Pathology in Mice Sensitized with the Biopesticide *Metarhizium anisopliae*. *Toxicology* 143(2): 141- 154. 2000.
- Ward, M.D.W., Madison, S.L., Andrews, D.L., Sailstad, D.M., Gavett, S.H., and Selgrade, MJ.K. Comparison of Respiratory Responses to *Metarhizium anisopliae* Extract Using Two Different Sensitization Protocols. *Toxicology* 147: 133-145. 2000.
- Selgrade, MJ. K., A. L. Lambert, M. D. W. Ward, and M. I. Gilmour. Animal Models to Assess the Effects of Air Pollutants on Allergic Lung Disease. *Annals N.Y. Acad. Sci.* Lambach:2000.
- Viana, Michael E.; Haykal Coates, Najwa; Gavett, Stephen H.; Selgrade, MaryJane K.; Vesper, Stephen J.; and Ward, Marsha D. W. An extract of *Stachybotrys chartarum* causes allergic asthma-like responses in a BALB/c mouse model. *Toxicol. Sci.* 70:98-109. 2002.
- Sailstad, D.M.; Ward, M.D.W.; Boykin, E.H.; and Selgrade, MJ.K. A Murine Model for Low Molecular Weight Chemicals: Differentiation of Respiratory Sensitizers (TMA) from Contact Sensitizers (DNFB). *Toxicology*. 194(1-2):147-61. 2003.
- Ward, M.D.W., Sailstad, D.M., Andrews, D.L., Boykin, E.H., and Selgrade, MJ.K. Ultraviolet radiation downregulates allergy in BALB/c mice. *J Toxicol Environ Health A*. 67(1):73-85. 2004.
- Chung, YongJoo, Haykal-Coates, Najwa, Viana, Michael E., Copeland, Lisa, Vesper, Stephen J., Selgrade, MaryJane K., and Ward, Marsha D.W. Dose-dependent allergic responses to an extract of *Penicillium chrysogenum* in BALB/c mice. *Toxicology* 209(1):77-89. 2005.

- Donohue M, Chung Y, Magnuson ML, Ward M, Selgrade MJ, and Vesper S. Hemolysin chrysolysin TM from *Penicillium chrysogenum* promotes inflammatory response. *Int J Hyg Environ Health*, 208(4): 279-285. 2005.
- Instanes, Christine, Ward, Marsha D. W., Hetland, Geir. The fungal biopesticide *Metarhizium anisopliae* has an adjuvant effect on the allergic response to ovalbumin in mice. *Toxicology Letters* 161: 219-225. 2006
- Selgrade, MaryJane K., Lemanske, Robert F., Gilmour, M. Ian, Neas, Lucas M, Ward, Marsha D.W., Henneberger, Paul K., Weissman, David N., Hoppin, Jane A., Dietert, Rodney R., Sly, Peter D., Geller, Andrew M., Enright, Paul L., Kleeberger, Stephn R., Backus, Gillian, Bromberg, Philip A., Germolec, Dori, and Yeatts, Karin B. Induction of Asthma and the Environment: What We Know and Need to Know. *Environmental Health Perspectives* (Accepted 10/2005).
- Chung, Yong Joo, Farraj, Aimen, Coates, Najwa Haykal, Gavett, Stephen H, and Ward, Marsha D W. Increased production of nerve growth factor, neurotrophin-3, and neurotrophin-4 in a *Penicillium chrysogenum*-induced allergic asthma model. (Submitted, March 2006).
- Ward, Marsha D.W. and Selgrade, MaryJane K. Animal Models For Protein Respiratory Sensitizers. *Methods* (special issue) (submitted, April, 2006).
- Donohue, Maura J., Copeland, Lisa B., Chung, Yong Joo, Shoemaker, Jody A., Selgrade, MaryJane K., Vesper, Stephen J., and Ward, Marsha D.W. The Identification of a Fungal Catalase as an Allergen. (Submitted, April, 2006).

#### Book Chapters:

- Selgrade, MJ.K., Germolec, D.R., Luebke, R.W., Smialowicz, R.J. Ward, M.D.W., Sailstad, D.M. Immunotoxicity. *Introduction to Biochemical Toxicology*. 3rd Edition. Ed: E. Hodgson, and R.C. Smart, J. Wiley and Sons, NY, NY. pp 561-597, 2001.
- Ward, Marsha D. W., Viana, Michael E., Chung, Yong Joo, Haykal-Coates, Najwa, Copeland, Lisa B., Gavett, Steven H., and Selgrade, MaryJane K. Assessing the allergic potential of indoor air fungal contaminants. In: *Bioaerosols, Fungi, Bacteria, Mycotoxins and Human Health: Patho-physiology, Clinical Effects, Exposure Assessment, Prevention and Control in Indoor Environments and Work* (2005). Ed: Eckardt Johanning. *Proceedings of the 5th International Bioaerosol Conference*, Saratoga Springs, NY, USA, September 9-12, 2003. Boyd Printing Company, Inc., Albany, NY. pp 116-123. 2005.
- Ward, Marsha DW, Chung, Yongjoo, and Selgrade, MaryJane K. Toxicology Associated with Respiratory Exposures to Fungi (Molds). *Inhalation Toxicology*, 2nd Edition. Ed: Harry Salem and Sidney A. Katz, Marcel Dekker, Publishers, NY, NY. 2005.